

REMARKS

I. Status of the Claims

Claims 21-37 are pending in the application and were the subject of the office action. All of the claims 21-37 stand rejected. Applicants request examination and favorable consideration in the view of following remarks.

II. Claim rejections

The Examiner has rejected claims 21-24, 28, 30-31, and 35 as being obvious over US 6,527,458 to Kim (hereafter "Kim") in view of Graffenreid. Applicants believe that claims 21-37 are patentable as presently written. Claims 21 and 35 are directed to an optical device comprising, amongst other things, an optical component which may move within the enclosure in response to the thermal expansion or contraction of the optical fibers.

The Examiner indicates that as it relates to claim 21, Kim discloses a compact optical transceiver integrated module comprising an optical device comprising an enclosure having a wall member defining a cavity and a sealable fiber entry portion and an optical component located within the cavity and at least two optical fibers connected to the optical component and extending substantially adjacent one another through the entry portion.

The Examiner indicates that as it relates to claim 35 that Kim describes a method of sealingly enclosing an optical component, the method comprising the steps of: providing an enclosure having a wall member defining a cavity and a sealable fiber entry portion; arranging an optical component connected to at least two optical fibers within the cavity such that the two optical fibers extend substantially adjacent one another through the entry portion and sealing the fiber entry portion so as to sealably retain the optical component within the cavity. The Examiner admits that Kim does not specifically disclose that the optical component is moveable within the enclosure in response to the thermal expansion or contraction of the optical fibers.

Because of Kim's shortcoming, the Examiner combines Kim with Graffenreid and the Examiner indicates that Graffenreid discloses a device for thermally and stably supporting miniaturized optical and electrical components within enclosures using a cantilever. The

Examiner indicates that since Graffenreid is from the same field of endeavor as Kim, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the thermally stabilizing method of mounting optical components of Graffenreid with the optical device of Kim in order to provide better alignment of light beams during various temperature changes.

Applicants submit that Kim teaches away from providing an optical device wherein the optical component is movable within the enclosure in response to the thermal expansion or contraction of the optical fibers. Specifically, Kim discloses that both the laser diode subassembly and photodetector subassembly are "bonded onto" the silicon optical bench. Further, the optical fibers are "fixed" within V-shaped grooves by using an ultraviolet epoxy. (Column 4-5, lines 54-67 and 1-7 respectively.)

Kim further discloses that active components of the optical transceiver are covered with a specially designed EMI case that covers these components thereby "fixing" them to the PCB. (Column 5, lines 44-63). Kim also discloses that silicon gel is applied on the laser diode subassembly and the photodetector subassembly to provide hermetic sealing, and an encapsulant is applied thereon to prevent external moisture absorption.

It is apparent from this disclosure of Kim that the component is fixed and is not free to move in response to the thermal expansion or contraction of the optical fibers. It is therefore evident that Kim does not have any movement.

Applicants traverse the combination of Kim and Graffenreid as the Graffenreid reference relates to a holder which is defined for thermal expansion. In other words the holder has 2 parts, of different thermal expansion coefficients α_1 and α_2 where they offset each other. This has nothing to do with allowing movement of the optical fibers due to the thermal expansion of the optical fibers. In fact, Graffenreid teaches that the relative position of the central orifice does not move at all.

The Examiner has rejected claims 25-27 and 29 as being obvious over Kim in view of Graffenreid, in view of US patent 5,195,155, US patent 5,299,273, US patent 6,760,098 and US patent 7,168,863.

As for claim 25, the Examiner indicates that Salo (U.S. Patent 6,760,098) discloses a flexible sealing for the window to the housing. Salo, however, shows in Fig. 2 an optical window, Item 2, and indicates that "Teflon can be used in the sealing of the optical window, for

instance, a prism", col. 3, lines 39-40. Applicants believe that the optical window 2 as described in Salo is not part of the enclosure as defined in the present application.

The Examiner has also rejected independent claim 34 as being obvious over Kim in view of US patent 6,850,461 to Maas. The Examiner indicates that Maas discloses a fiber optic seismic array telemetry system comprising a fiber storage tray that also stores optical components such as isolators and amplifiers. Again the limitation in claim 34 indicates that the organizer tray assembly includes an optical fiber organizer tray and an optical device of claim 21 profiled for fitting in the optical fiber organizer tray. This is not taught or suggested by Maas.

The Examiner also provided an Advisory Action dated 7/15/2009. In that, the Examiner summarizes his position by saying "Simply stated, Applicants claims (sic) are too broad to warrant consideration for patentability." (See Advisory Action ¶11). Applicants know no such rule or caselaw, but would be enlightened to review this if provided by the examiner. Moreover, it is noted that all of the examiner's rejection are based upon 35 U.S.C. §103, rather than 35 U.S.C. §102, so it is questionable how they can be too broad.

In the event that there are any questions related to these amendments or to the application in general, the undersigned would appreciate the opportunity to address those questions directly in a telephone interview to expedite the prosecution of this application for all concerned.

Applicants do not believe that there are any fees associated with the filing of this Response. However, should there be any fees due in connection with this Response the Commissioner is hereby authorized to charge these fees to Baker & Daniels LLP's Deposit Account No. 02-0390.

Respectfully Submitted,

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